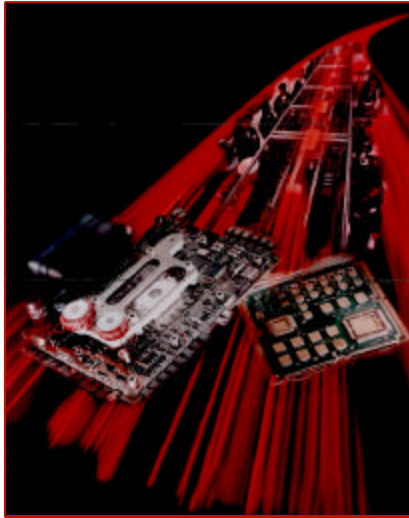


The Concept - Leverage the Commercial Electronics Manufacturing Base for Cost Reduction



FEATURES

- Exploit Proven Quality and Cycle Time on High Volume Commercial Lines
- Design for Manufacturability AND Commercial Practices
- Maximize Adoption of Best Practices via Team-Based Approach

BENEFITS

- 30-50% Cost Savings for F-22 and RAH-66 Electronic Modules
- Demonstrated Manufacture of Military Modules using Commercial Processes and Practices
- Process and Model for Subcontracting to Commercial Suppliers

Figure 1. Key Features and Benefits of MPCL Concept

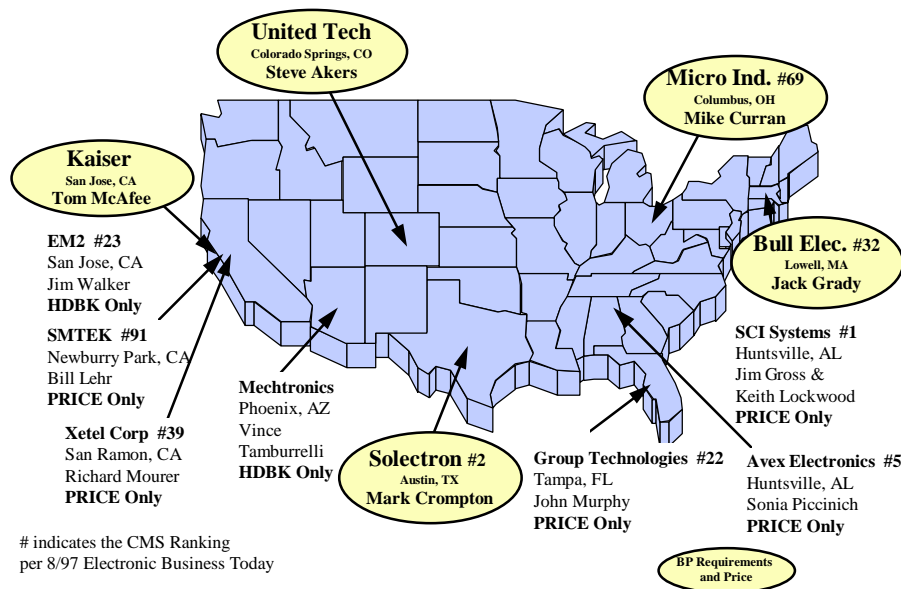
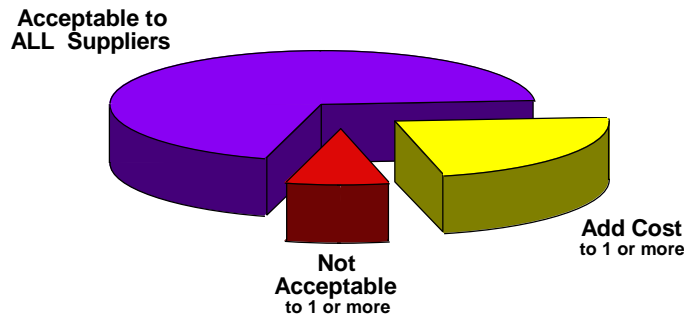


Figure 2. Requirements Validation Survey Participants



**IBP-MPCL Business Practices Will be Revised
with Integrated Support Teams' Consensus**

Figure 3. Handbook Requirements Validation Survey Results

Specific Requirements Determined To Be Cost-Adding By Participants

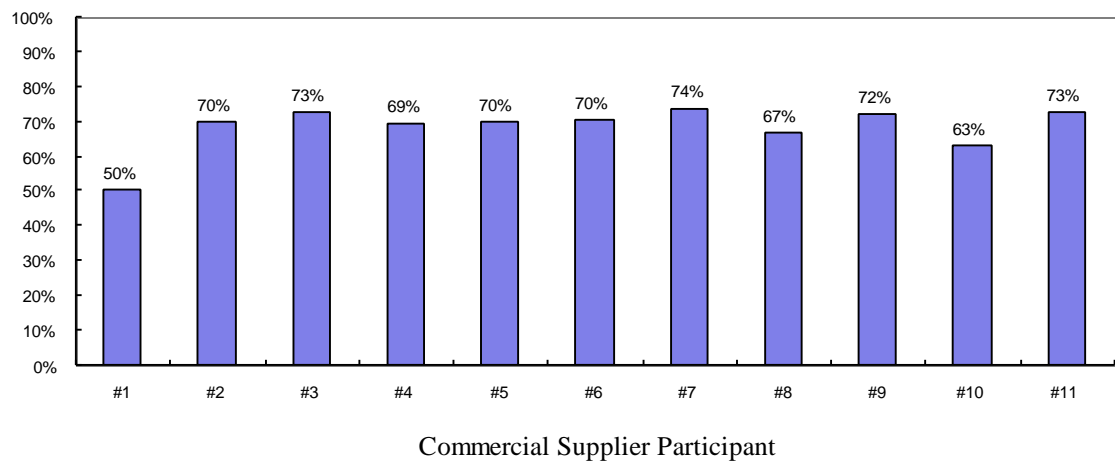
Requirement Description	No. of Firms
Operational Requirements Matrix	1
Program Control Plan	1
Customer Verification @ Manufacturing Readiness Review w/ Functional Configuration Audit	1
Customer Verification @ Production Verification w/ Physical Configuration Audit	2
Parts Control Program	1
Configuration Status Record	1
As-Built-Configuration Report	1
Functional Configuration Audit (see #12 above)	1
In-process Inspection Witnessed by Customer	1
Final Acceptance Insp Witnessed by Customer	1
Control of Non-Conforming Product	1
Customer-Owned Property (Tracking/Reporting)	1
Bar Code Symbology	1
Reporting of Manufacturing Process Controls	2
Control of Process Parameters & Key Characteristics	1
Reliability Program	2
Product Failure Reports	1

Specific Requirements Determined To Be Unacceptable By Participants

Requirement Description	No. of Firms
Notification of Product Phaseout or Process Change	1
Subcontractor Flowdown of Configuration Mgmt	3
Cost-of-Quality Demonstration or Reporting	3
DPAS Ratings on Purchase Orders	4
Customer Property Recording & Reporting	1
Reliability Program	1

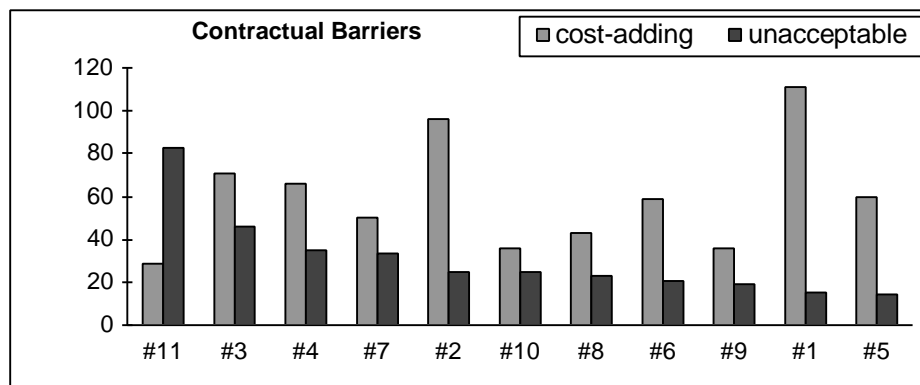
Table 1. Requirements Survey Feedback - Unacceptable and Cost-Adding Requirements

Percentage Cost Avoidance



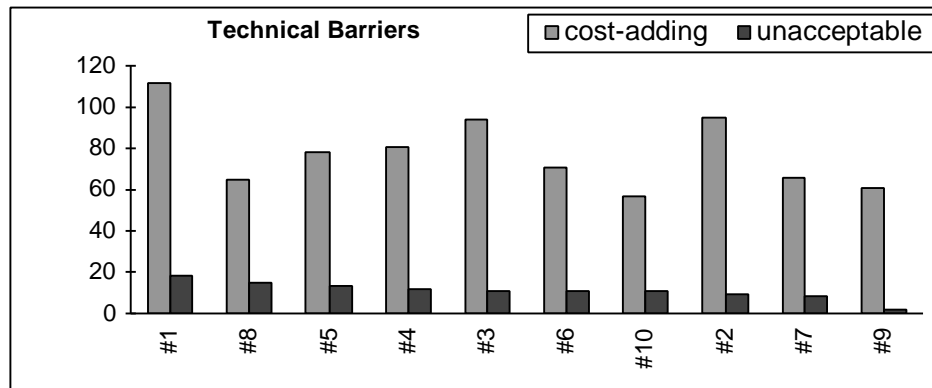
Average Price Represents a 68% Savings Over Military Baseline

Figure 4. Requirements Validation Pricing Validates MPCL Savings Potential



- #1 Government unique specs and stds
- #2 Government reporting requirements
- #3 Government cost accounting standards
- #4 Government audits of accounting, purchasing, etc.
- #5 Contract terms and conditions
- #6 Defense market volatility
- #7 Cost and pricing data
- #8 Data/intellectual property rights issues
- #9 Restrictions to off-shore fabricators
- #10 Socioeconomic provisions
- #11 Profitability restrictions

Figure 5. Ranking of Contractual Barriers by Commercial Firms



- #1 Special operational test rqmts
- #2 Quality requirements/stds
- #3 Reliability or qualification test results provided to customer
- #4 Flow down of requirements to subs
- #5 Physical configuration audits
- #6 Functional configuration audits
- #7 First article inspection
- #8 In-process source inspection
- #9 Small lot quantities
- #10 Final acceptance customer source inspections

Figure 6. Ranking of Technical Barriers by Commercial Firms

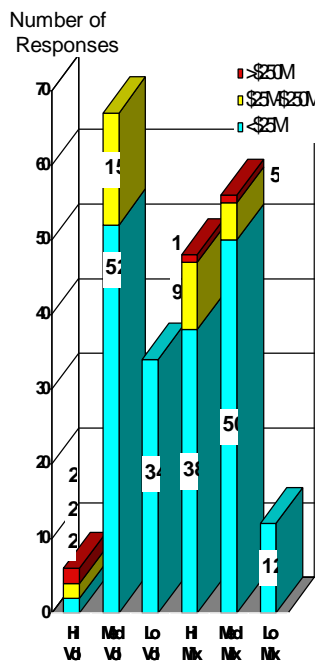


Figure 7. Commercial EMS and PWB Firm Sales Volume/Mix Data

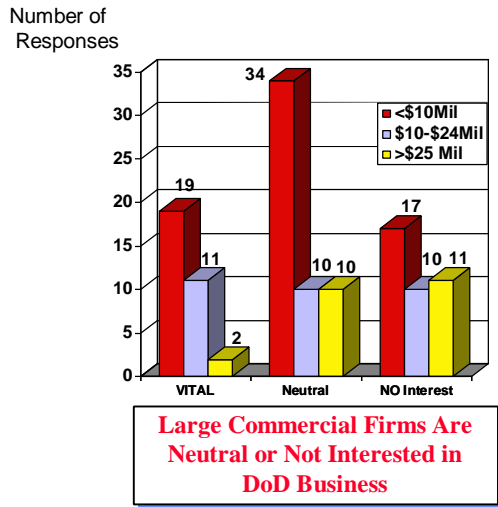


Figure 8. Interest in DoD Business by Firm Size